



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/549,915

07/16/2007

Masanori Yoshihara

4252-0117PUS1

4688

2292 7590 04/27/2009
BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

KHATRI, PRASHANT J

ART UNIT

PAPER NUMBER

1794

NOTIFICATION DATE

DELIVERY MODE

04/27/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/549,915	Applicant(s) YOSHIHARA ET AL.	
	Examiner PRASHANT J. KHATRI	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/20/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because the abstract is more than 150 words. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-4 and 6-8 rejected under 35 U.S.C. 102(b) as being anticipated by Yuasa et al. (***JP 2001-108826***).
4. Yuasa et al. disclose a protective film for a polarizing plate and manufacturing methods thereof. Concerning claims 1 and 2, Yuasa et al. disclose a resin-based substrate material comprising an alicyclic structure such as norbornene (***para. 0011***). Regarding the photoelastic coefficient it is noted that the material must have values that are less than $20 \times 10^{-7} \text{ cm}^2/\text{kgf}$ (***para. 0008***), which when converted is $2 \times 10^{-10} \text{ Pa}^{-1}$. It is further noted that the thickness of the substrate material is from 5 microns to 500 microns (***para. 0020***). Given that the substrate material disclosed is the same as that

Art Unit: 1794

presently claimed, Examiner takes the position that the presently claimed water-absorbing percentage and warpage would meet the present limitations.

Regarding the antireflection layer recited in claims 1, 3 and 4, Yuasa et al. disclose an acid-resisting layer is disposed onto the resin layer which is comprised of a high-refractive index layer and low-refractive layer comprising inorganic oxide materials that can be sputtered, vacuum evaporated, and plasma deposited (**para. 0024-0029**). While it is noted that such a layer is described as an acid-resisting layer, it is further noted that such a combination of layers is well-known within the art to also provide antireflective properties.

Concerning claims 7 and 8, Yuasa et al. disclose that the polarizing plate can be adhered on one side. Given the broad disclosure, Examiner takes the position that the disclosure includes the presently claimed limitations of claim 7. Further, it is noted that the article can be used in LCDs (**abstract**).

5. Claims 1-2 and 7-8 rejected under 35 U.S.C. 102(e) as being anticipated by Yamaoka et al. (**US 6417904**).

6. Yamaoka et al. disclose an optically compensatory film, polarizing plate, and LCD thereof. Regarding claim 1, Yamaoka et al. disclose a transparent film base having a water absorption coefficient less than 1.0% and a photoelastic coefficient that is less than $30 \times 10^{-12} \text{ m}^2/\text{N}$ (**abstract**). Further, the thickness of the film base material is from 5 microns to 300 microns (**col. 4, lines 10+**). As shown in Figures 1 and 2, the polarizing plate (**element 3; col. 3, lines 2+, col. 4, lines 49+**) can be laminated onto

Art Unit: 1794

the transparent film base and further, an anti-reflection layer can be disposed onto the surface of the polarizing plate. Concerning claim 2, it is noted that the transparent film base is comprised of hydrogenated norbornene polymer having an alicyclic structure especially polymers having no hydrophilic groups or two or less hydrophilic groups per component monomers and the like (**col. 3, lines 60+**). Given the above disclosure regarding the material comprising the transparent base film and the desired absorption and photoelastic coefficient characteristics, it is clear that the disclosure of Yamaoka et al. would include and encompass the presently claimed absorption and photoelastic coefficient characteristics. Regarding claims 7 and 8, as shown in Figure 3, an optically compensatory polarizing plate (**element 5; col. 7, lines 8+**) is provided on one side of a liquid crystal cell.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yuasa et al. (**JP 2001-108826**) in view of Nakajima (**JP 2000-336196**).

9. Yuasa et al. disclose the above in paragraph 4; however Yuasa et al. is silent to use of a multi-chambered deposition process.

Art Unit: 1794

10. Nakajima discloses a process for forming anti-reflective film layers on a polymer film (**abstract**). Concerning claim 5, Nakajima discloses a process of forming successive layers comprising inorganic oxide materials that individually possess different refractive indices (**para. 0038-0042**). The successive layers are produced by a drum that has a plurality of chambers containing a different reaction in each chamber thus resulting in different inorganic oxide layers formed (**para. 0040-0042**). The inorganic oxide materials used are those that form silica, titanium dioxide, and the like (**para. 0042**). The motivation to use a multi-chambered drum is that one can control the temperature of polymer film to prevent decomposition of said film while simultaneously forming a multilayered anti-reflective film (**para. 0010-0014**).

11. However, note that while Nakajima does not disclose all the features of the present claimed invention, Nakajima is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely, a multi-chambered drum process in order to deposit inorganic oxide in a laminated form while controlling the temperature to prevent decomposition of the polymer film and in combination with the primary reference, discloses the presently claimed invention.

12. All of the elements were known within the art. The only difference is a single disclosure containing all of the presently claimed elements. Yuasa et al. disclose a protective film for a polarizing plate and manufacturing methods thereof. However

Art Unit: 1794

Yuasa et al. is silent to use of a multi-chambered deposition process. Nakajima discloses a process for forming anti-reflective film layers on a polymer film using a multi-chambered drum. The motivation to combine the above references is drawn towards a multi-chambered drum allows one to control the temperature of polymer film to prevent decomposition of said film while simultaneously forming a multilayered anti-reflective film. Therefore, it would have been obvious to one of ordinary skill in the art apply the multi-chambered drum disclosed by Nakajima as the deposition process for producing the anti-reflective layers disclosed by Yuasa et al.

13. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaoka et al. (**US 6417904**) in view of Nakajima (**JP 2000-336196**).

14. Yamaoka et al. disclose the above in paragraph 6; however Yamaoka et al. is silent to composition of the anti-reflective layers and process thereof.

15. Nakajima discloses a process for forming anti-reflective film layers on a polymer film (**abstract**). Concerning claims 3-6, Nakajima discloses a process of forming successive layers comprising inorganic oxide materials that individually possess different refractive indices (**para. 0038-0042**). The successive layers are produced by a drum that has a plurality of chambers containing a different reaction in each chamber thus resulting in different inorganic oxide layers formed (**para. 0040-0042**). The inorganic oxide materials used are those that form silica, titanium dioxide, and the like (**para. 0042**). The motivation to use a multi-chambered drum is that one can control the

Art Unit: 1794

temperature of polymer film to prevent decomposition while simultaneously forming a multilayered anti-reflective film (**para. 0010-0014**).

16. However, note that while Nakajima does not disclose all the features of the present claimed invention, Nakajima is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely, a multi-chambered drum process in order to deposit inorganic oxide in a laminated form while controlling the temperature to prevent decomposition of the polymer film and in combination with the primary reference, discloses the presently claimed invention.

17. All of the elements were known within the art. The only difference is a single disclosure containing all of the presently claimed elements. Yamaoka et al. disclose an optically compensatory film, polarizing plate, and LCD thereof. However Yamaoka et al. is silent to composition of the anti-reflective layers and process thereof. Nakajima discloses a process for forming anti-reflective film layers on a polymer film using a multi-chambered drum. Examiner notes that an alternating refractive index stack (i.e. HLHL or LHLH type) is well known within the art to provide reflection suppression characteristics and would have been obvious to one of ordinary skill in the art to implement. The motivation to combine the above references is drawn towards a multi-chambered drum allows one to control the temperature of polymer film to prevent decomposition of said film while simultaneously forming a multilayered anti-reflective

Art Unit: 1794

film. Therefore, it would have been obvious to one of ordinary skill in the art apply the multi-chambered drum disclosed by Nakajima as the deposition process for producing the anti-reflective material disclosed by Yamaoka et al.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. JP 2001-147303, JP 2003-62943, and JP 2003-39599 disclose a transparent base film comprising a resin such as norbornene and the like with a method for forming anti-reflective layers. However, the above references were not relied upon as the rejections would have been multiplied.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PRASHANT J. KHATRI whose telephone number is (571)270-3470. The examiner can normally be reached on M-F 8:00 A.M.-5:00 P.M. (First Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571) 272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1794

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/
Supervisory Patent Examiner, Art Unit 1794

PRASHANT J KHATRI
Examiner
Art Unit 1794